II. Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. – 5. (canceled)

6. (currently amended) A system for sensing data associated with fracturing a subterranean formation penetrated by a well bore, comprising:

~~The system of claim 1 wherein the~~

at least one sensor ~~is~~ located in a fracture in the formation for sensing the data associated with the fracturing and for transmitting corresponding signals;

a tool adapted to be lowered into the well bore;

a receiver mounted on the tool and adapted to receive the signals; and

means for transmitting the signals from the receiver to the ground.

7. – 11. (canceled)

12. (currently amended) A method of sensing data associated with fracturing a subterranean formation penetrated by a well bore, comprising the steps of:

lowering a tool into the well bore;

~~The method of claim 7 wherein the step of sensing data comprises~~

sensing data with a sensor located in a fracture in the formation;

transmitting signals corresponding to the sensed data;

receiving the signals corresponding to the sensed data at the tool; and

transmitting signals corresponding to the received signals from the tool to the ground surface.

13. – 17. (canceled)

18. (currently amended) A system for sensing data associated with fracturing a subterranean formation penetrated by a well bore, comprising:

~~The system of claim 13 wherein the means for sensing data is~~

a sensor located in a fracture in the formation for sensing data associated with the fracturing and for transmitting corresponding signals;

a tool adapted to be lowered into the well bore;

means mounted on the tool and adapted to receive the signals; and

means for transmitting the signals from the tool to the ground.

19. (New) A method of sensing data associated with fracturing a subterranean formation penetrated by a well bore, comprising the steps of:

sensing data associated with the fracturing;

storing the data in the well bore;

converting the data into digital signals in the well bore;

passing the digital signals to a transmitter in the well bore;

converting the digital signals at the transmitter to analog signals;

transmitting the analog signals to a receiver located in the well bore;

converting the signals at the receiver to signals that can be transmitted to the ground surface; and

transmitting the signals from the receiver to the ground surface.

20. (New) The method of claim 19 wherein each analog signal is one of an acoustic, seismic, radio frequency, or electromagnetic signal.

21. (New) The method of claim 19 further comprising introducing fracturing fluid into the well bore during the steps of sensing, storing, converting, passing and transmitting.

22. (New) The method of claim 19 further comprising the step of transmitting a signal from the ground surface to the sensor to initiate the step of sensing.

23. (New) The method of claim 19 wherein the second step of transmitting comprises connecting an electrical conductor between the receiver to a controller at the ground surface.

24. (New) The method of claim 19 further comprising the step of lowering a tool into the well bore, and wherein the steps of sensing, storing, converting, passing and transmitting are done at the tool.

25. (New) The method of claim 19 wherein the steps of sensing, storing, converting, passing, and the first step of transmitting are done at a casing disposed in the well bore.

26. (New) The method of claim 25 further comprising the step of lowering a tool into the well bore, and wherein the second step of transmitting is done at the tool.

27. (New) The method of claim 19 wherein the step of sensing is done in a fracture in the formation.

28. (New) A system for sensing data associated with fracturing a subterranean formation penetrated by a well bore, the system comprising:

a sensor disposed in the well bore for sensing data associated with the fracturing and transmitting the data;

a microprocessor disposed in the well bore for receiving and storing the data, converting the data into digital signals, and transmitting the digital signals;

a transmitter disposed in the well bore for receiving the digital signals from the microprocessor, converting the digital signals to analog signals, and transmitting the analog signals; and

a receiver disposed in the well bore for receiving the analog signals from the transmitter, converting the analog signals to transmissible signals, and transmitting the transmissible signals to the ground surface.

29. (New) The system of claim 28 wherein each analog signal is one of an acoustic, seismic, radio frequency, or electromagnetic signal.

30. (New) The system of claim 28 further comprising means for introducing fracturing fluid into the well bore during the sensing, storing, converting, and transmitting.

31. (New) The system of claim 28 further comprising means for transmitting a signal from the ground surface to the sensor to initiate the step of sensing.

32. (New) The system of claim 28 further comprising an electrical conductor for transmitting the signals from the receiver to the ground surface.

33. (New) The system of claim 28 further comprising a tool disposed in the well bore, and wherein the sensor, microprocessor, transmitter and receiver are mounted on the tool.

34. (New) The system of claim 28 wherein the sensor, the microprocessor, and the transmitter are mounted on a casing in the well bore.

35. (New) The system of claim 34 further comprising a tool disposed in the well bore, and wherein the receiver is mounted on the tool.